SPECIFICATION

Please replace the title with the following replacement title.

DEPENDENCE-CHAIN PROCESSOR <u>USING TRACE DESCRIPTOR(S) HAVING</u> <u>DEPENDENCY DESCRIPTOR(S)</u>

Please replace paragraph [0025] with the following replacement paragraph.

[0025] **Figure 1** illustrates one embodiment of the present invention, where the dependency chain processor consists of a control flow engine 2 and a data flow engine 7 that cooperate in producer/consumer fashion to execute programs. A control flow engine 2 reads and processes trace descriptors from the trace descriptor storage in speculative control flow order. Speculative fetching of trace descriptors is carried out by a trace fetch unit 3. Each trace descriptor 102 contains dependency chain descriptors 101 for the trace's constituent dependency chains, in addition to aggregate trace information. Upon processing by the DC (dependency chain) dispatch unit 4 of a trace descriptor, the control flow engine 2 pushes the constituent dependency chain descriptors 101 into a dependency chain issue window 6. A data flow engine 1 in turn consumes dependency chain descriptors 101 from the dependency chain issue window 6 dispatching them to available clusters 8 for execution within each execution cluster 8 instructions of the assigned dependency chain are fetched from the dependency chain instruction storage and executed. Each execution cluster 8 may include a fetch unit 11, ~~issued~~ <u>issue</u> unit 12 and execute unit 13.